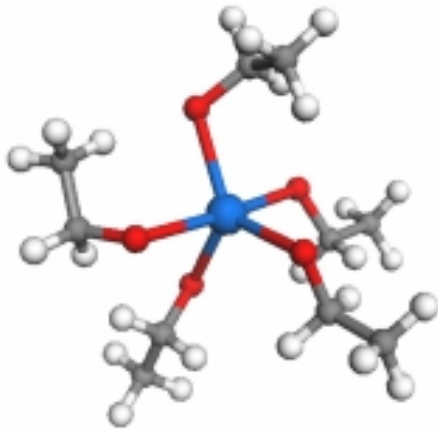


# ALOHA™ CVD/ALD Materials



## TAETO / PET

Tantalum Pentaethoxide

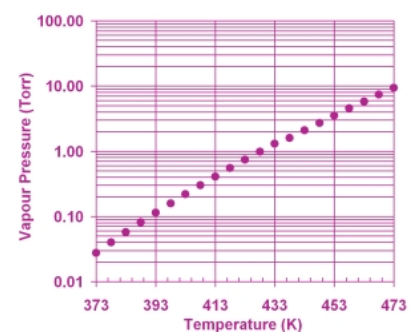
$\text{Ta}[\text{O}(\text{C}_2\text{H}_5)]_5$

CAS n° 6074-84-6

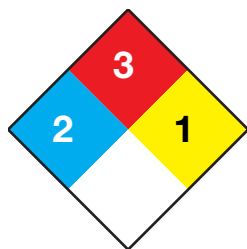
- TAETO is essentially used for the deposition of conformal Ta<sub>2</sub>O<sub>5</sub> films for high-k capacitor applications, and as a Ta source for coating solutions. Ta<sub>2</sub>O<sub>5</sub> films have a k value up to 25.
- TAETO is a clear viscous liquid that reacts slowly in moist air, and rapidly with water, with the evolution of volatile ethanol. Handling in perfectly dried piping and components is mandatory for high-performance, particle-free processing.
- ALOHA's TAETO exhibits perfect vaporization characteristics with virtually no residue left.
- TAETO can be supplied along with UHP dehydrated Ethanol for quick and efficient purge of the connexion port and of the feed line to the vaporizer.
- Like for most of the ALOHA advanced products, each canister of TAETO is supplied with a BALAZS CoA ensuring strict compliance with the specifications. Please consult [www.balazs.com](http://www.balazs.com) for more information on Air Liquide's BALAZS analytical services.

### Physical Chemical Properties

Physical Property	
Molecular Weight	406.25 g.mol <sup>-1</sup>
Physical State	Liquid
Colour	Clear
Melting Point	21°C
Vapour Pressure	1 Torr @ ~160°C
Specific Gravity	1.566 g.cm <sup>-3</sup> @ 25°C
Viscosity	14.7 cSt @ 30°C
Viscosity (2)	1.55 cSt @ 160°C
Heat of vaporization	20.6 kcal.mol <sup>-1</sup>



## Hazard Rating



### HMIS

Health: 2  
Flammability: 3  
Reactivity: 1

The product should be handled considering that the major by-product in case of air exposure is ethanol. Please consult the ALOHA MSDS of TAETO for emergency response and PPE prior to material usage.

- All materials in contact with TAETO should be compatible with alcohols. Please consult ALOHA for detailed material compatibility recommendation.

## Packaging & Dispensing System

- TAETO can be packaged in a variety of canisters depending on the application.
- For on-board applications, TAETO is usually supplied in 1200 or 1800 ml canisters with various valving and dip-tube configurations. Multipoint or continuous level sensing systems can also be customized to meet each specific requirements. ALOHA's on-board canisters have all-metal construction and are cleaned and dried by state of the art techniques. TAETO can also be filled in properly documented customer-supplied canisters.
- Bulk containers from 2 to 5 Gallons can also be used for remote/centralized delivery of TAETO. For such a low volatility precursor, the solvent purge option along with Air Liquide's proprietary flow-trough valving design and ALOHA's dehydrated ethanol is strongly recommended.
- The Air Liquide CANDI™ delivery system with solvent clean option is very well suited for dispensing large quantities of TAETO, and is qualified for HVM applications at major OEMs and end-users. Documentation and performance data are available upon request.



## Transport Information

- Proper shipping name: Flammable Liquid, N.O.S. (Tantalum V Pentaethoxide)
- CAS n° 6074-84-6
- UN Number: 1993
- UN Class/division: 3
- UN Package group: III
- DOT Hazard Class : 3

